

WHAT IS CLAIMED IS:

1. A transceiver system comprising:
a plurality of transceiver chips, each transceiver chip having a plurality of serializer/deserializer (SERDES) cores, each SERDES core having one or more SERDES lanes, each SERDES lane having a receive channel and a transmit channel,
wherein the transmit channel of each SERDES lane is phase-locked with a corresponding receive channel.
2. The transceiver system of claim 1, wherein each SERDES core receives and transmits data to and from external components connected to the SERDES core.
3. The transceiver system of claim 2, wherein the external components include disk drives.
4. The transceiver system of claim 1, wherein the transmit channel and the corresponding receive channel are each part of a common SERDES lane.
5. The transceiver system of claim 1, wherein the transmit channel is part of a first SERDES lane of a common SERDES core, and the corresponding receive channel is part of a second SERDES lane of the common SERDES core.
6. The transceiver system of claim 1, wherein the transmit channel is part of a first SERDES lane of a first SERDES core, and the corresponding receive channel is part of a second SERDES lane of a second SERDES core.
7. The transceiver system of claim 6, wherein the first SERDES core and the second SERDES core are disposed on a common substrate.

8. The transceiver system of claim 6, wherein the first SERDES core is disposed on a first substrate and the second SERDES core is disposed on a second substrate.

9. The transceiver system of claim 8, wherein the first substrate and the second substrate are disposed on a common board.

10. The transceiver system of claim 8, wherein the first substrate is disposed on a first board and the second substrate is disposed on a second board.

11. A method of transferring data from a first external component coupled to an active receive channel of a transceiver system to a second external component coupled to an active transmit channel of the transceiver system, in which a transmit clock signal of the active transmit channel is phase-locked with a receive clock signal of the active receive channel, the transceiver system comprising a plurality of transceiver chips, each transceiver chip having a plurality of serializer/deserializer (SERDES) cores, each SERDES core having one or more SERDES lanes, each SERDES lane having a receive channel and a transmit channel, the method comprising:

receiving, at the active receive channel, external component data from the first external component;

transferring the external component data and receive clock phase data from the active receive channel to the active transmit channel;

phase-locking the transmit clock signal with the receive clock signal per the receive clock phase data; and

transmitting, from the active transmit channel, the external component data to the second external component.

12. The method of claim 11, wherein the first and second external components include disk drives.
13. The method of claim 11, wherein:
 - the receiving step receives the external component data in analog format;
 - the transferring step transfers the external component data and receive clock signal phase data in digital format; and
 - the transmitting step transmits the external component data in analog format.
14. The method of claim 11, wherein:
 - the receiving step receives the external component data in series;
 - the transferring step transfers the external component data and receive clock signal phase data in parallel; and
 - the transmitting step transmits the external component data in series.
15. The method of claim 11, wherein the active transmit channel and the active receive channel are each part of a common SERDES lane.
16. The method of claim 11, wherein the active transmit channel is part of a first SERDES lane of a common SERDES core, and the active receive channel is part of a second SERDES lane of the common SERDES core.
17. The method of claim 11, wherein the active transmit channel is part of a first SERDES lane of a first SERDES core, and the active receive channel is part of a second SERDES lane of a second SERDES core.
18. The method of claim 17, wherein the first SERDES core and the second SERDES core are disposed on a common substrate.

19. The method claim 17, wherein the first SERDES core is disposed on a first substrate and the second SERDES core is disposed on a second substrate.
20. The method of claim 19, wherein the first substrate and the second substrate are disposed on a common board.
21. The method of claim 19, wherein the first substrate is disposed on a first board and the second substrate is disposed on a second board.